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82E/8E; 82F/5W

5326

REPORT ON THE

GEOCHEMISTRY, MAGNETICS AND GEOLOGY

"WEWA" AND "RAM" MINERAL CLAIMS - TRAIL CREEK M.D. B. C.

& 82E/8E  
82F/5W

OPERATOR: Brascan Resources Limited  
Vancouver, B. C.

LOCATION: Trail Creek Mining Division, B.C.  
16 miles west of Castlegar, B.C.  
49° 17'N, 118°W, NTS 82E/8E and 82F/SW

REPORT BY: L. W. Saleken, B.Sc.

CLAIM OWNER: Brascan Resources Limited

DATE OF WORK: Intermittently from May 29 to  
November 20, 1974.

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5326 MAP

January 6th, 1975

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SUMMARY & RECOMMENDATIONS

Brascan Resources Ltd. hold 60 mineral claims in the Trail Creek Mining Division British Columbia. The property is located approximately 16 miles west of Castlegar B.C. at the headwaters of Big Sheep Creek (NTS 82E/8E, 82F/5W). Access to the property is by road.

During the summer of 1974, Brascan personnel conducted exploration work on the property at a cost of \$10,990.00. The field work consisted of claim surveying, establishment of chain and compass grid, stream silt sampling, grid soil sampling, grid magnetometer surveying and geological mapping and prospecting.

Economically potential porphyry-type molybdenum copper mineralization was not discovered during the exploration program carried out on the property. The prospecting program was successful in locating several occurrences of pyrite and two small breccia zones containing fluorite, minor chalcopyrite, magnetite and possibly molybdenite. The soil and magnetometer surveys failed to give an indication of any hidden mineralized bodies. The best explanation of the high molybdenum stream silt values along Big Sheep Creek is that the metal ions for concentrating were derived from several weakly mineralized areas on the property. The ion concentration along the creek is due to local streams conditions.

The 1974 exploration program was sufficient to fully explore the property. Since the results from the initial stage of exploration are discouraging, no further work on the property is recommended.

INTRODUCTION

The Wewa Claims were originally staked by H. Veerman and W. Botel in the summer of 1971. The claims were subsequently optioned to Brascan Resources Limited in the spring of 1974 by H. Veerman and W. Botel. An additional fifty-six "Ram" claims were acquired to cover the adjoining open ground.

During the summer of 1974, Brascan personnel conducted detailed stream silt sampling, grid geochemical and magnetometer surveying, geological mapping and prospecting over the claims.

PROPERTY

Brascan Resources Limited holds sixty contiguous mineral claims in the Trail Creek Mining Division, B. C.

<u>Claim</u>	<u>Record No.</u>	<u>Recording Date</u>
Wewa 6,8	4875,4877	October 22, 1971
Wewa 27,29	4896,4898	October 22, 1971
Ram 1-5,7	5300-5305	June 7, 1974
Ram 9-26,28	5306-5324	June 7, 1974
Ram 30-60	5325-5355	June 7, 1974

Brascan Resources have the "Wewa" 6,8,27,29 under option from H. Veerman and W. Botel. The "Ram" claims are owned by Brascan Resources Limited.

HISTORY

The area of the Wewa - Ram claims was originally staked as the Wewa Group in the summer of 1971, as a result of locating anomalous molybdenum stream silt samples in the headwaters of Big Sheep Creek. A limited soil sampling and prospecting program was immediately conducted with moderate success. Prior to the staking of the Wewa claims, no previous mining history existed on the claim area. Molybdenite mineralization has been reported north of the group at Mt. Shields.

LOCATION, ACCESS AND PHYSIOGRAPHY

The property is located at the headwaters of Big Sheep Creek, north of Highway 3, approximately sixteen miles west of Castlegar and 4.6 miles south of Mt. Shields. The claims extend from Latitude 49° 16' 12" to 49° 18' 00" and from Longitude 118° 00' 48" to 117° 59' 40", N.T.S. 82E/8E and 82F/5W.

Access is by gravel road from Highway 3. The gravel road is located on the north side of Highway 3 approximately one-half mile east of Nancy Green Lake.

The property is between 5150 and 4600 feet A.S.L. The relief is gentle but locally steep. The claims are heavily tree-covered with evergreens and scrub-brush. Water is available at all times.

Overburden material is glacial debris mainly till and on the average is relatively thin (5-10 feet). From 10-15% of the property is outcrop.

EXPLORATION PROGRAM - 1974

Exploration work on the claims was conducted by Brascan Personnel under the general supervision of L. W. Saleken, Senior Geologist. The field work was done intermittently from May 29th and September 30th, 1974 and consisted of claim surveying, chain and compass grid, stream silt sampling, grid soil sampling, grid magnetomer surveying and geological mapping and prospecting. The various duties were conducted by:

<u>Personnel</u>	<u>Duties</u>
L.W. Saleken, Geologist	geological mapping & prospecting
R.J. Overstall, Geologist	geological mapping & prospecting
C. Crooker, Geologist	soil & magnetomer survey
A. Zimmerman, Helper	silt & soil sampling
B. Furnival, Helper	soil sampling
A. Alexander, Helper	soil sampling

A total of 713 geochemical samples were taken and analyzed by hot extraction for Mo. Cu. and Ag. The magnetic survey consisted of 17 line miles. All total, 28 line miles of grid were established by chain and compass methods.

GEOLOGY

The general geology of the area consists of Mesozoic Nelson batholith non-porphyritic granite to granodiorite intruded by Tertiary Coryell syenite and monzonite plugs.

Within the claim group the rocks seen were intrusive and can be divided into two groups that correspond to either the Nelson or the Coryell types. The claim geology is represented in Figure 3.

Early intrusions - Nelson

The oldest rock which underlies the property is a coarse-grained monzonite or granodiorite. The main minerals are grey orthoclase and a darker plagioclase feldspar with biotite the main mafic mineral and hornblende seen in some of the outcrops. The contact between the monzonite intrusion and any older rocks lies outside of the mapping area so the size of the intrusion and its mode of emplacement is not known.

About half of the monzonite outcrop has undergone some degree of propylitic alteration. In the low grade alteration the mafic minerals are altered to chlorite and a few epidote stringers are seen. In the more altered outcrops the rock is composed of foliated chlorite, epidote and feldspar. The alteration probably occurred relatively soon after the monzonite was intruded; it does not extend into any of the later intrusions and does not bear any special relationship with them.

A fine - grained diorite is located in the south-east corner of the property. This may be a quadrant of a small stock. The contrast with the older monzonite is sharp although the pattern of outcrops suggests the main intrusion feathers into numerous dykes. The fine - grained diorite grades into a coarse - grained green andesite in the narrower dykes. Some chlorite and epidote alteration is present but is not as pervasive as parts of the monzonite and therefore does not form a mappable unit.

#### Later intrusions - Coryell

A number of different rock types occur as dykes and lenses in the monzonite and diorite east of the main creek. Generally, they are felsites and andesites rich in pink orthoclase feldspar.

The three main rock types occurring as dykes are:

- (1) Feldspar/hornblende/biotite porphyry- in narrow dykes the rock is fine-grained felsite.
- (2) Orthoclase - porphyry andesite- sparse pink orthoclase phenocrysts occur in a fine-grained green andesite.
- (3) Biotite-porphyry andesite- biotite phenocrysts occur in a pinkish green fine-grained andesite.

#### Structure

A strong north-south structural control is evident throughout the area mapped. All foliation, dykes, faults and breccia zones trend within 10° or 15° north. The magnetics on the property confirm this observation.



This trend was established after the emplacement of the monzonite as no directional trend is apparent in the fresh rock. However, the altered variety and subsequent intrusions show lineation in the north-south direction.

A number of the minor north-south faults exist east of the Big Sheep Creek but are impossible to detect in the complex arrangement of minor intrusions. A "major fault" does exist a few hundred feet west of Big Sheep Creek. North of the small lake, the fault lenses out into a narrow breccia zone about six feet wide and fifty feet long.

#### Alteration and Mineralization

Alteration and sulphide mineralization on the property is weak and sparse and is confined to fracture fillings, mafic replacements and small breccia zones. There is a close relationship to Tertiary Coryell intrusions and associated faults. Several small sulphide, mainly pyrite showings were located. Fluorite, minor chalcopyrite and magnetite occur with the fault breccias. Molybdenite was discovered in a quartz vein west of the "main fault". Areas of extension or molybdenite mineralization were not discovered.

Alteration is of the propylitic type where chlorite, sericite and epidote have developed. Silicification is common to the altered area. Weak sulphide mineralization is associated with the alteration. Magnetite is also common associate with vein epidote.

The best mineralization in the property occurs associated with the fault breccia. Two small breccia areas

were located: L 67N, 38W and L 71N, 44W. The breccias are fault controlled and restricted in size. Both locations contained fluorite mineralization with location L 71N, 44W containing minor amounts of chalcopyrite and associated magnetite and possibly molybdenite. Assays results from this area were not significant. An extension of this mineralization either by magnetics or geochemistry underneath the overburden at this location is not evident.

#### MAGNETOMETER SURVEY

##### Method

The magnetometer survey was conducted using a Scintrex model MF-1 fluxgate magnetometer. Readings were taken every 200 feet along the established chain and compass grid. A total of 17 line miles were surveyed. The results were corrected for magnetic deviation and contoured at 100 gamma intervals. The results are shown on Figure 4 and, as presented, show a slight grid bias.

##### Results

The magnetic relief ranges from -240 gammas to 1200 gammas. The background is approximately 500 gammas. The magnetic fabric conforms to regional structural trends on the property.

At location L 71N,44W, there appears to be a magnetic high of 1000 gammas that coincides with the breccia zone. The magnetics suggest that the zone is limited in extent ( 400 feet by 400 feet). There is also a strong magnetic

indication that a north-easterly fault cross-cuts the breccia area.

Other magnetic high centres are indicative of rock types mainly andesitic dykes.

### GEOCHEMISTRY

#### Method

All creeks in the claim block were sampled at approximately 500 feet intervals for a total of 80 samples. A one mile square in the southern half of the claim block was soil sampled at 200 feet intervals on lines 400 feet apart for a total of 635 samples. The soil samples were usually taken from the "B" soil horizon or from the "A<sub>2</sub>" where "B" was absent in swampy areas. The overburden cover is generally thin and suitable for soil sampling.

All samples were analyzed for copper, molybdenum and silver after hot acid extraction by standard atomic absorption methods. The results were interpreted using the Lepeltier method of geochemical data treatment. The results are presented in Figures 2a,b,c and 5a,b,c.

#### Results

The silt sampling confirmed earlier surveys which showed anomalous molybdenum values in the creek flowing south from the small lake in the centre of the property. From between 1500 feet and 5000 feet south of the lake samples contained up to 92 ppm Mo. Copper and silver values were not noticeably anomalous.

Observation on the claim group indicates the overburden is thin, sandy and dry. Much of the drainage on the valley slopes was deduced to be at the overburden-bedrock interface. The section of the creek where the anomalous samples were taken was intermittent (during September) with water table only occasionally appearing above the creek bed. The flow was very slow. Boulders and gravel in the creek bed were covered with iron and manganese staining. The staining appears to act as a local trap to background metal ions thus creating anomalous values at those particular locations. An obvious source of the metal ions was not located during the exploration program.

The soil sampling failed to produce any patterns of anomalous results in any of the three metals tested. Several weakly anomalous spot values were located. In the area of known mineralization, the geochemical responses were negligible.

#### CONCLUSIONS & RECOMMENDATIONS

Economically potential porphyry-type molybdenum - copper mineralization was not discovered during the exploration program carried out on the property. The prospecting program was successful in locating several occurrences of pyrite and two small breccia zones containing fluorite, minor chalcopyrite, magnetite and possibly molybdenite. The soil and magnetometer surveys failed to find an indication of any hidden mineralized bodies. The best explanation of the high molybdenum stream silt values along Big Sheep Creek is that the metal ions for concentrating were

derived from several weakly mineralized areas on the property. The ion concentration along the creek is due to local streams conditions.

The 1974 exploration program was sufficient to fully explore the property. Since the results from the initial stage of exploration are discouraging, no further work on the property is recommended.



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L.W. SALEKEN  
SENIOR GEOLOGIST

BRASCAN RESOURCES LIMITED

STATEMENT OF EXPENDITURES (1974)

<u>Personnel</u>	<u>Dates Worked</u>	<u>Salaries</u>	
L.W. Saleken	July 5-16, Oct 1-14	16@\$75/day	1200.00
R.J. Overstall	Sept 18-29, Oct 1-4	16@\$50/day	800.00
C. Crooker	July 5-16, Sept 18-29 Oct 1-4	28@\$40/day	1120.00
A. Zimmerman	July 5-16	12@\$35/day	420.00
B. Furnival	July 5-16	12@\$35/day	420.00
A. Alexander	Sept 18-29	12@\$35/day	420.00
			<u>\$ 4,380.00</u>
Project Travel and Accommodation includes room and board at Castlegar B.C. for twenty-eight days			3,534.23
Materials and supplies			148.35
Magnetometer Rental			221.50
Vehicle Rental and Gas, one month			780.00
Maps, Reports, Draftings			321.67
Geochemical Assaying Mo,Cu,Ag including prep, 713 samples @ \$2.25/sample			<u>1,604.25</u>
TOTAL EXPENDITURE			<u>\$10,990.00</u>

CERTIFICATE OF QUALIFICATIONS

I, Leonard W. Saleken, B.Sc., Geology, of 6976  
Laburnum Street, Vancouver, B. C. state as follows:

- 1] That I graduated from the University of British Columbia in 1968 with a Bachelor of Science Degree in Geology.
- 2] That I have prospected and actively pursued geology prior to my graduation and have practised my profession since 1968.
- 3] That I am a member of the Canadian Institute of Mining and Metallurgy and the Geological Association of Canada.
- 4] That I am presently employed as a Senior Geologist with Brascan Resources Limited, Suite 502, 1155 West Pender Street, Vancouver, B.C.

DATED at Vancouver, British Columbia this 6th  
day of January, 1975.



L. W. SALEKEN, B.Sc.

ILLUSTRATIONS



DEER PARK  
PROPERTY

SHIELDS  
CREEK



19	20	39	40	59	60
17	18	37	38	57	58
15	16	35	36	55	56
13	14	33	34	53	54
11	12	31	32	51	52
9	10	29	30	49	50
7	8	27	28	47	48
5	6	25	26	45	46
3	4	23	24	43	44
1	2	21	22	41	42

RAM CLAIMS

WEWA  
CLAIMS

TO  
CASTLEGAR  
20 m

NANCY  
GREENE  
LAKE

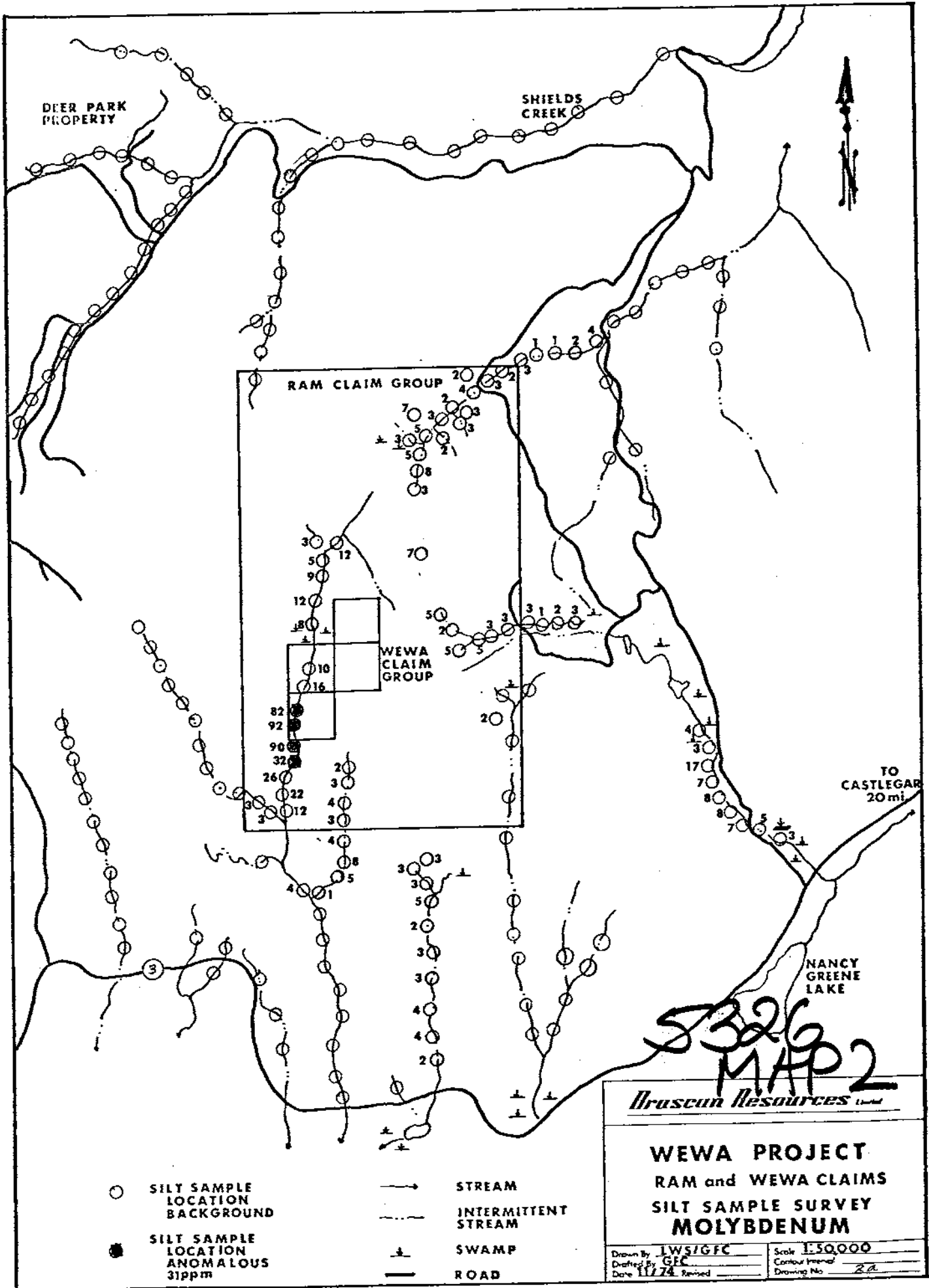
5326  
MAP 1

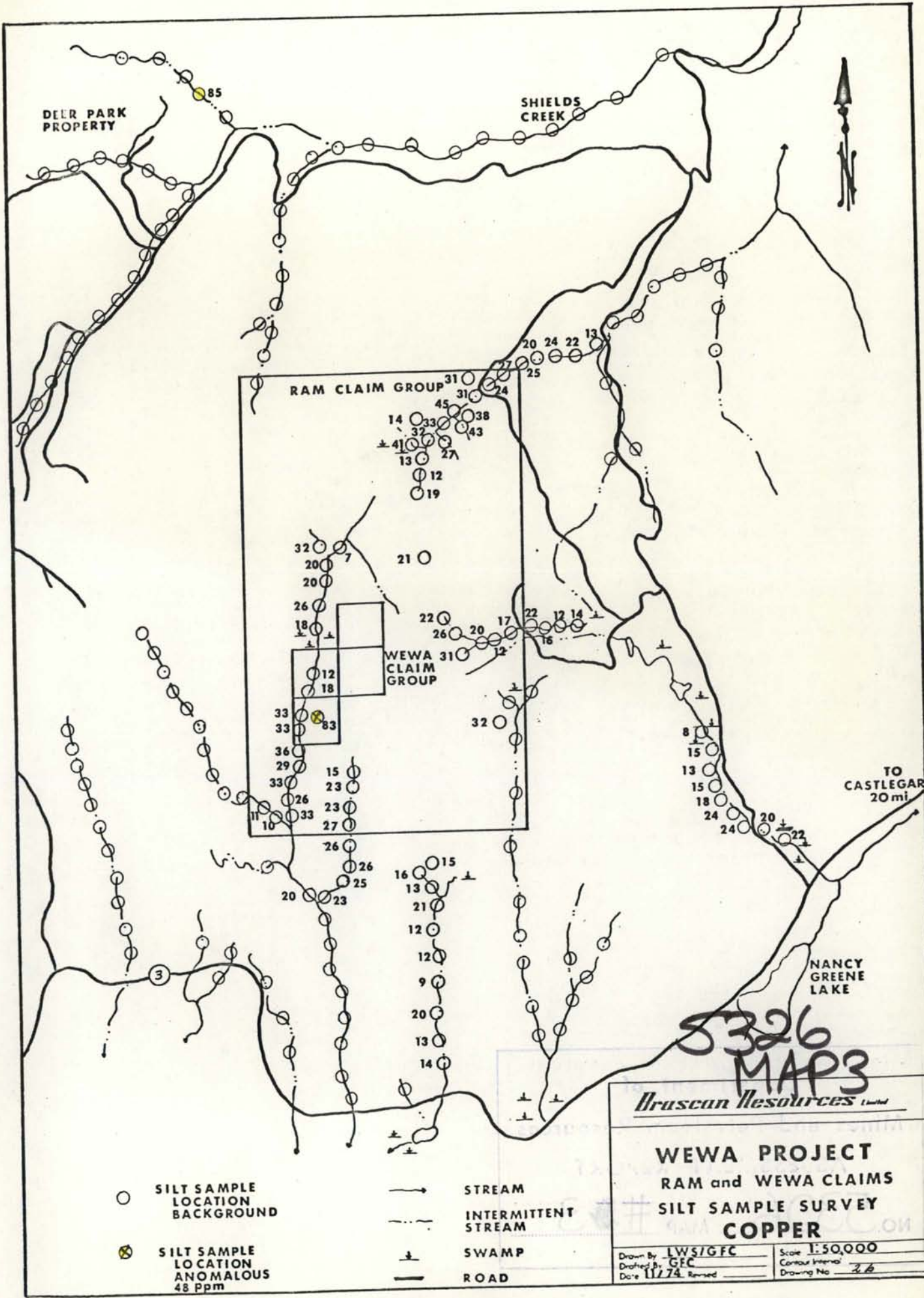
Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. **5326** MAP # **1**

*Brascan Resources Limited*

**WEWA PROJECT**  
**RAM and WEWA CLAIMS**  
**CLAIM LOCATION**

Drawn By: GFC Scale: 1:50000  
 Drafted By: GFC Contour Interval: \_\_\_\_\_  
 Date: 11/74 Revised: \_\_\_\_\_ Drawing No. 1





DEER PARK PROPERTY

SHIELDS CREEK

RAM CLAIM GROUP

WEWA CLAIM GROUP

TO CASTLEGAR  
20 mi

NANCY GREENE LAKE

5326  
MAP 3

*Brascan Resources Limited*

**WEWA PROJECT**  
RAM and WEWA CLAIMS  
SILT SAMPLE SURVEY  
**COPPER**

○ SILT SAMPLE LOCATION BACKGROUND

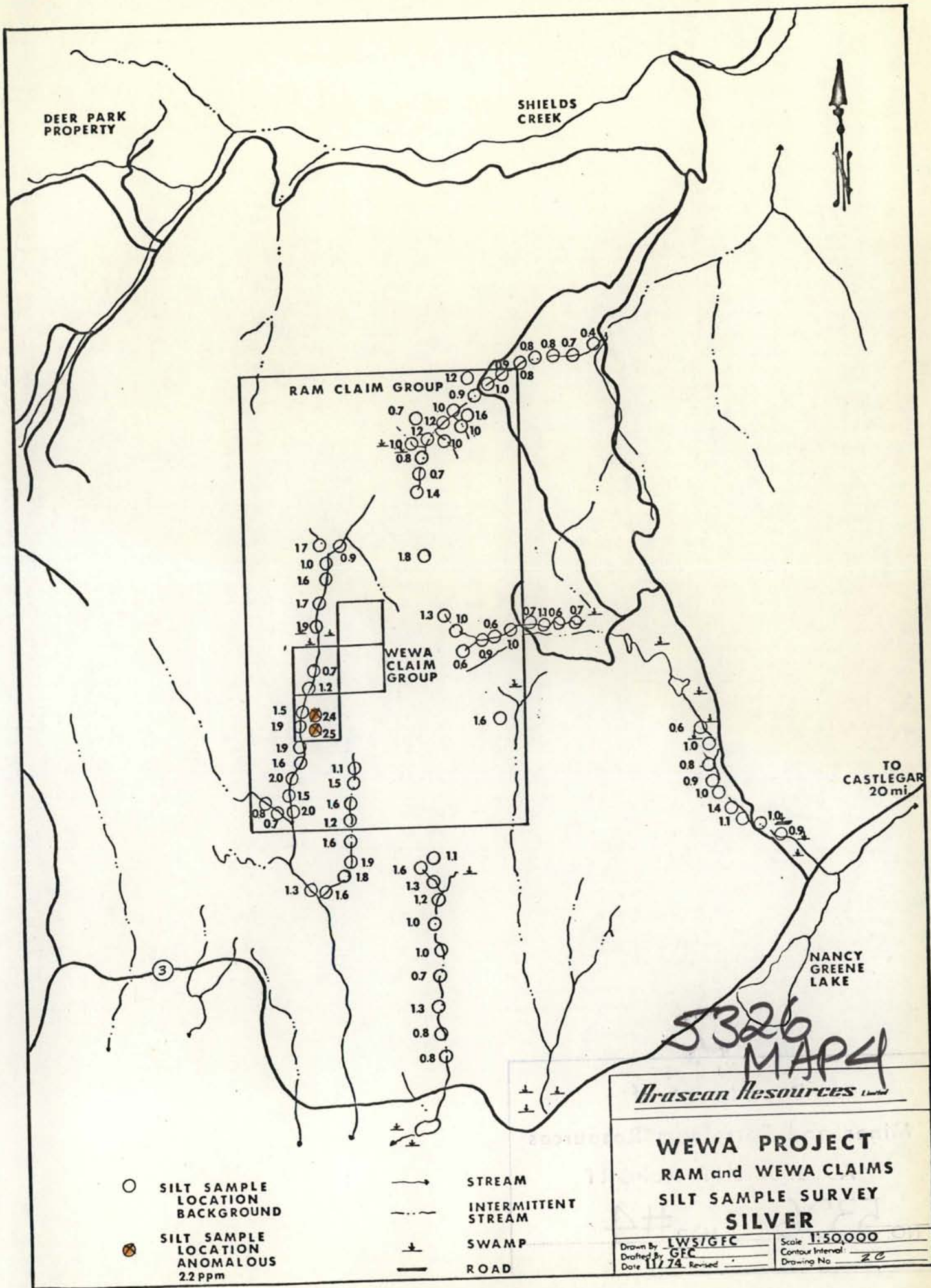
⊗ SILT SAMPLE LOCATION ANOMALOUS 48 Ppm

→ STREAM  
- - - INTERMITTENT STREAM  
⊥ SWAMP  
— ROAD

Drawn By LWS/GFC  
Drafted By GEC  
Date 11/74 Revised

Scale 1:50,000  
Contour Interval  
Drawing No. 2.6

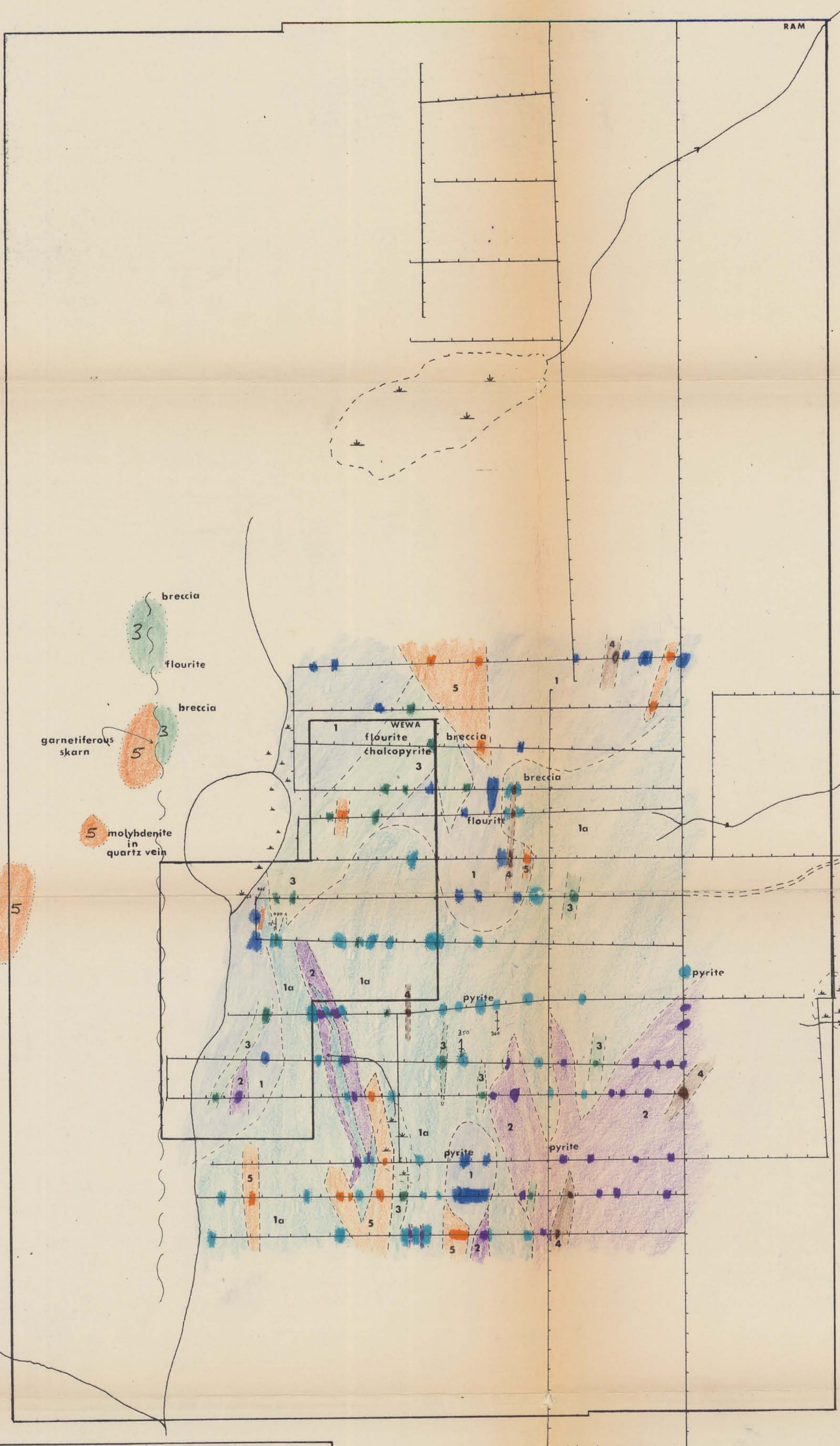






L 80 W L 70 W L 60 W L 50 W L 40 W L 30 W L 15 W L 0 L 15 E

L 144 N  
L 136 N  
L 128 N  
L 120 N  
L 112 N  
L 100 N  
L 90 N  
L 80 N  
L 75 N  
L 71 N  
L 67 N  
L 64 N  
L 60 N  
L 56 N  
L 52 N  
L 45 N  
L 40 N  
L 36 N  
L 30 N  
L 26 N  
L 22 N  
L 20 N  
L 10 N  
L 0 N



- road
- swamp
- stream
- strike, dip
- foliation
- 5 FELDSPAR-HORNBLLENDE-BIOTITE-PORPHYRY FELSITE DYKES
- 4 PORPHYRITIC ANDESITE pink feldspar phenocrysts
- 3 BIOTITE-PORPHYRY-ANDESITE syenitic
- 2 DIORITE fine grained
- 1a MONZONITE propylitic alteration
- 1 MONZONITE coarse grained, fresh

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NO. 5326 #5

5326  
MAPS

**Horscan Resources Limited**

**WEWA PROJECT**  
**RAM and WEWA CLAIMS**  
ROSSLAND MINING CAMP B. C.

**GEOLOGY**

Drawn By: GFC  
Drafted By: GFC  
Date: NOV 74 Revised: \_\_\_\_\_  
Scale: 1" = 800'  
Contour Interval: \_\_\_\_\_  
Drawing No. 3

*Handwritten signature*



L 80 W    L 70 W    L 60 W    L 50 W    L 40 W    L 30 W    L 15 W    L 0    L 15 E



L 144 N  
L 136 N  
L 128 N  
L 120 N  
L 112 N  
L 100 N  
L 90 N  
L 80 N  
L 75 N  
L 71 N  
L 67 N  
L 64 N  
L 60 N  
L 56 N  
L 52 N  
L 45 N  
L 40 N  
L 36 N  
L 30 N  
L 26 N  
L 22 N  
L 20 N  
L 10 N  
L 0 N



	ROAD
	SWAMP
	STREAM
	SILT SAMPLE BACKGROUND
	SILT SAMPLE ANOMALOUS 31 ppm and GREATER
	SOIL SAMPLE ANOMALOUS 6.7 ppm and GREATER
	ANOMALOUS AREA
	GRID LOCATION ppm MOLYBDENUM

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
No. 5326 MAP #7

5326  
MAP 7

**Bruscan Resources Limited**

**WEWA PROJECT**  
RAM and WEWA CLAIMS  
ROSSLAND MINING CAMP B. C.

**GEOCHEMISTRY Mo**

Drawn By: GFC	Scale: 1" = 800'
Drafted By: GFC	Contour Interval: _____
Date: NOV 74 Revised: _____	Drawing No. 5a

*[Handwritten signature]*



L 80 W    L 70 W    L 60 W    L 50 W    L 40 W    L 30 W    L 15 W    L 0    L 15 E



L 144 N  
L 136 N  
L 128 N  
L 120 N  
L 112 N  
L 100 N  
L 90 N  
L 80 N  
L 75 N  
L 71 N  
L 67 N  
L 64 N  
L 60 N  
L 56 N  
L 52 N  
L 45 N  
L 40 N  
L 36 N  
L 30 N  
L 26 N  
L 22 N  
L 20 N  
L 10 N  
L 0 N



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A CLAIM REPORT  
NO. 5326 MAP #6

5326  
MAP 6

**Brascan Resources Limited**

**WEWA PROJECT**  
**RAM and WEWA CLAIMS**  
ROSSLAND MINING CAMP B.C.

**MAGNETOMETER**

Drawn By: GFC    Scale: 1" = 800'  
Drafted By: GFC    Contour Interval: \_\_\_\_\_  
Date: NOV 74    Revised: \_\_\_\_\_    Drawing No. \_\_\_\_\_

→ STREAM  
SWAMP  
--- ROAD

*Handwritten signature*



L 80 W

L 70 W

L 60 W

L 50 W

L 40 W

L 30 W

L 15 W

L 0

L 15 E

L 144 N

L 136 N

L 128 N

L 120 N

L 112 N

L 100 N

L 90 N

L 80 N

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L 60 N

L 56 N

L 52 N

L 45 N

L 40 N

L 36 N

L 30 N

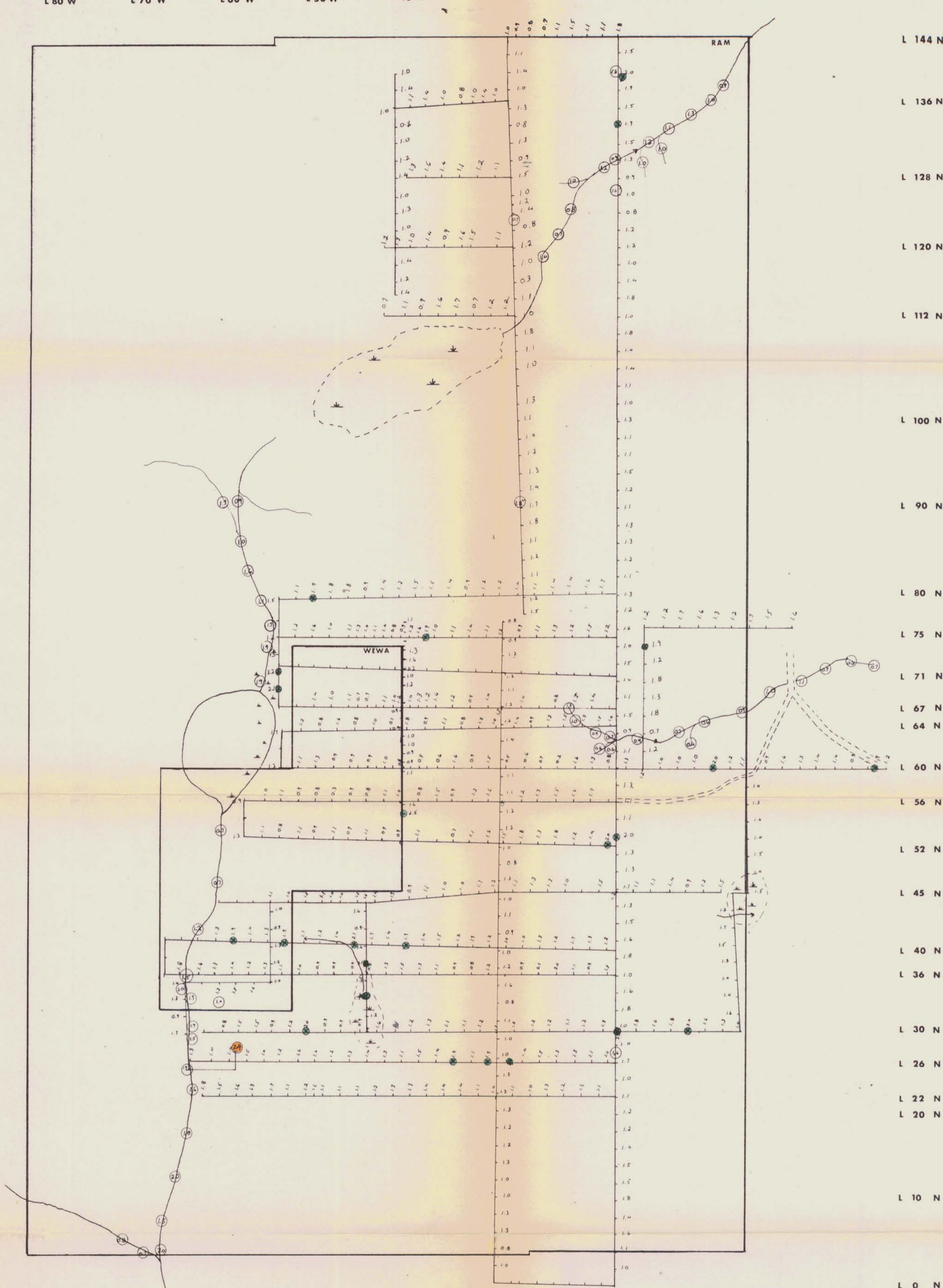
L 26 N

L 22 N

L 20 N

L 10 N

L 0 N



Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5326 MAP #9

5326  
MAP 9

**Brascan Resources Limited**

**WEWA PROJECT**  
RAM and WEWA CLAIMS  
ROSSLAND MINING CAMP B.C.

**GEOCHEMISTRY Ag**

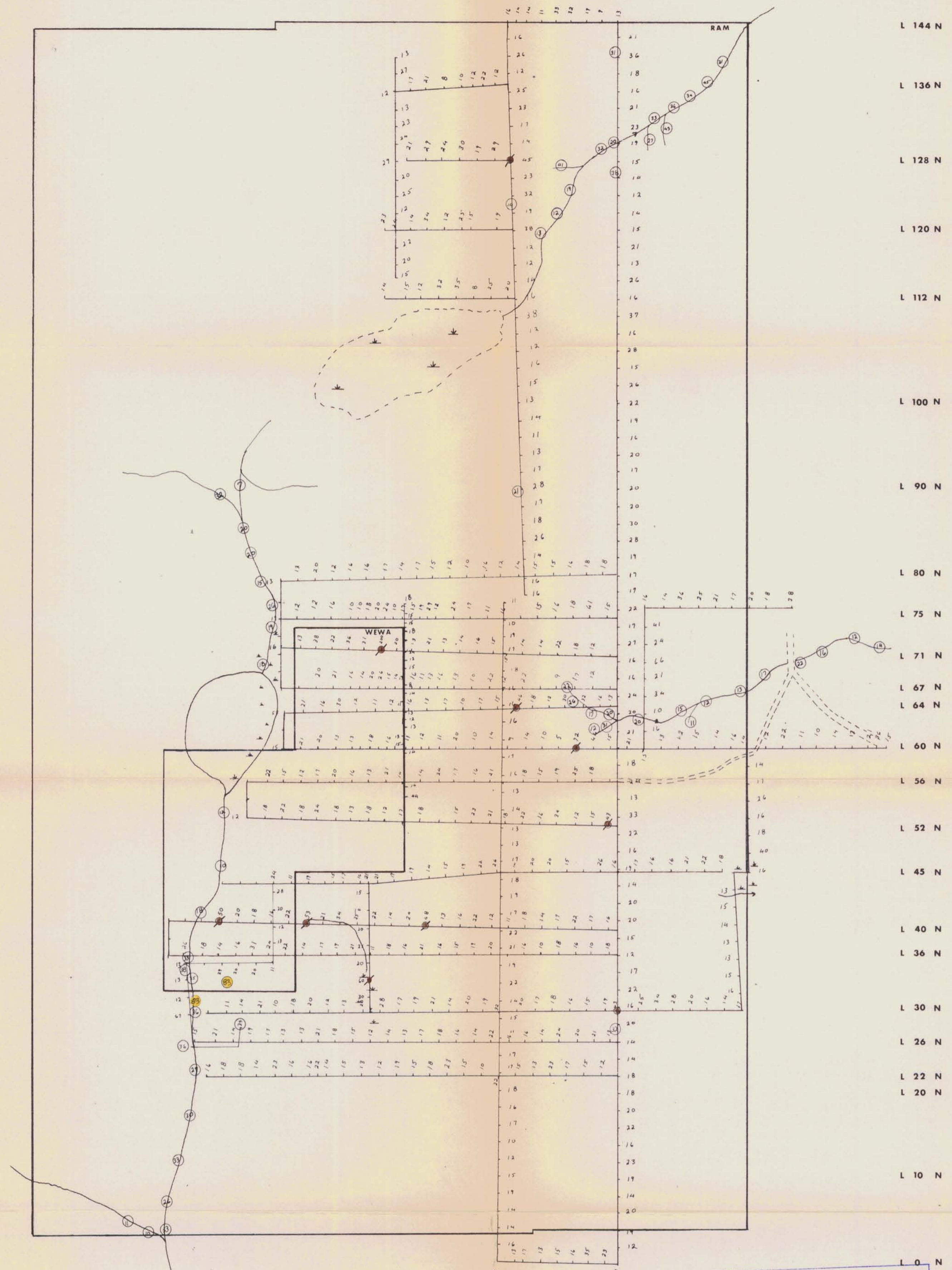
Drawn By: GFC  
Drafted By: GFC  
Date: NOV 74 Revised: \_\_\_\_\_  
Scale: 1 = 800  
Contour Interval: \_\_\_\_\_  
Drawing No. 5c

*Les Soller*

- ROAD
- SWAMP
- STREAM
- SILT SAMPLE BACKGROUND
- SILT SAMPLE ANOMALOUS 2.2 ppm and GREATER
- GRID LOCATION ppm SILVER
- SOIL SAMPLE ANOMALOUS 1.9 ppm and GREATER
- ANOMALOUS AREA



L 80 W L 70 W L 60 W L 50 W L 40 W L 30 W L 15 W L 0 L 15 E



L 144 N  
L 136 N  
L 128 N  
L 120 N  
L 112 N  
L 100 N  
L 90 N  
L 80 N  
L 75 N  
L 71 N  
L 67 N  
L 64 N  
L 60 N  
L 56 N  
L 52 N  
L 45 N  
L 40 N  
L 36 N  
L 30 N  
L 26 N  
L 22 N  
L 20 N  
L 10 N  
L 0 N

	ROAD
	SWAMP
	STREAM
	SILT SAMPLE BACKGROUND
	SILT SAMPLE ANOMALOUS 48 ppm and GREATER
	GRID LOCATION ppm COPPER
	SOIL SAMPLE ANOMALOUS 43 ppm and GREATER
	ANOMALOUS AREA

Department of  
Mines and Petroleum Resources  
ASSESSMENT REPORT  
NO. 5326 MAP #8

5326  
MAP 8

*Red Soble*

**Bruscan Resources Limited**

**WEWA PROJECT**  
RAM and WEWA CLAIMS  
ROSSLAND MINING CAMP B.C.

**GEOCHEMISTRY Cu**

Drawn By: GFC	Scale: 1" = 800'
Drafted By: GFC	Contour Interval: _____
Date: NOV 74 Revised: _____	Drawing No. <b>5b</b>